

Software Version: 10.22

Support Matrix

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Document Changes

Version	Changes
10.22 (2nd Edition, August 2016)	The following operating system versions were incorrectly added to probe side, which should be removed. For the correct versions supported, see Data Flow Probe Requirements > Software Requirements.
	 Red Hat Enterprise Linux Server versions 7.0 and 7.1 on probe side Oracle Enterprise Linux with Red Hat Compatible Kernel versions 7.0 and 7.1 on probe side Oracle Enterprise Linux with Oracle Compatible Kernel versions 7.0 and 7.1 on probe side

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Page 2 of 37

Contents

Requirements	4
Hardware	4
Operating System	5
Databases	8
Application Servers	13
Web Servers	13
Web Browsers and Plug-ins	14
Additional Requirements	17
Data Flow Probe Requirements	
Universal Discovery Client Inventory Tools Software Requirements	21
Store and Forward Server Support	22
Compatibility	23
Languages	23
Internationalization Variances	24
Virtualization Products	24
Recommendations for Deploying HP CMS System on the Virtual Machines	27
High-Availability Products	27
HP Software Integrations	28
HP Software Coexistence	28
Other Software Coexistence	28
Server / Client Compatibility	28
Performance and Sizing	28
Transparent Technology and Virtualization Support	30
Obsolescence Plans	31
Change Log	32
Cond Documentation Foodback	27
Send Documentation Feedback	37

Requirements

This section provides information about the supported hardware and software that you must have to successfully install and run Universal CMDB 10.22.

Hardware

HP Universal CMDB 10.22 is supported on the following hardware:

Component	Requirement	Requirement					
Computer/processor	Windows/Linux:	Windows/Linux:					
	To fulfill the CPU require	ements, you must hav	e one o	of the following:			
	• Intel Dual Core Xeon	Processor 2.4 GHz or	later				
	AMD Opteron Dual Co	ore Processor 2.4 GHz	or late	er			
	Recommended: The late recommended.	-					
	In addition to the above number of CPU Cores, do	•		_			
	CPU Cores:	CPU Cores:					
	Deployment	Minimum Recommended					
	Small	1 Core	4 Cores				
	Standard	4 Cores	8 Cores				
	Enterprise	8 Cores	24 Cores				
	Note: As HP Universal CMDB performance is dependent upon processor speed, to ensure proper HP Universal CMDB performance it is recommended that you use the fastest possible processor speed.						
Memory	B1	Windows/Linux:					
	Deployment	Minimum		Recommended			
	Small	4 GB RAM		8 GB RAM			

HP Universal CMDB (10.22) Page 4 of 37

Component	Requirement					
	B1	Windows/Linux:				
	Deployment	Minimum	Recommended			
	Standard	8 GB RAM	16 GB RAM			
	Enterprise	16 GB RAM	32 GB RAM (for more than 40 million CIs and relationships)			
Memory Swap File	Windows: The virtual memory for Windows should be at least 1.5 times the size of the physical memory. Linux: The Linux swap file size should be equal in size to the physical					
	memory.	wap me size should be eque	it in size to the physical			
Free hard disk space	 Small/Standard/Enterprise: At least 100 GB (for logs, memory dumps, and so on) If the search functionality is enabled, more hard disk space is required. 					
	For example,					
	 14M CIs + relationships: 30G or more space would be needed for SOLR index files 20M CIs + relationships: Almost 50G space would be needed 					
Display	Windows: Color palette setting of at least 256 colors (recommended: 32,000 colors)					

Note: The hardware requirements for HP Universal CMDB Configuration Manager are the same as those for Universal CMDB.

Operating System

Universal CMDB 10.22 runs on the following operating systems:

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2012 R2	Datacenter and Standard, 64-bit	Yes	Yes
x86-64	Windows Server 2012	Datacenter and Standard, 64-bit	Yes	Yes

HP Universal CMDB (10.22) Page 5 of 37

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2008	Enterprise SP2, R2, and R2 SP1 64-bit	Yes	
x86-64	Windows Server 2008	Standard R2 and R2 SP1, 64-bit	Yes	
x86-64	Red Hat Linux Server 5.10 and 5.11	Enterprise/Advanced 64-bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2, 6.3, 6.4, 6.5, 6.6,	64-bit	Yes	
	7.0, and 7.1		Note: Versions 6.6, 7.0, and 7.1 are supported for UCMDB 10.22 or later. For version 7.0 and 7.1, UCMDB with embedded PostgreSQL is not supported.	
x86-64	Oracle Enterprise Linux Server with Red Hat	Enterprise/Advanced 64-bit	Yes	
	Compatible Kernel v6.3, v6.4, v6.5, v6.6, v7.0, and v7.1		Note: v6.6, v7.0, and v7.1 are supported for UCMDB 10.22 or later. For v7.0 and v7.1, UCMDB with embedded PostgreSQL is not supported.	
x86-64	Oracle Enterprise Linux Server with Unbreakable Enterprise Kernel v6.3, v6.4, v6.5, v6.6, v7.0, and	Enterprise/Advanced 64-bit	Yes Note: v6.6,	

HP Universal CMDB (10.22) Page 6 of 37

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
	ν7.1		v7.0, and v7.1 are supported for UCMDB 10.22 or later. For v7.0 and v7.1, UCMDB with embedded PostgreSQL is not supported.	
x86-64	Windows Server 2003		No	
x86	Windows Server 2008		No	
Any	SUSE Linux Server 9, 10, 11	Enterprise	No	
Sun SPARC	Solaris 8, 9, or 10		No	
Any	Red Hat Linux Server 3, 4	Enterprise	No	
Itanium 64	Windows Server 2008		No	
Itanium 64	Red Hat Linux Server 5	Enterprise/Advanced	No	

Note:

- For new deployments, UCMDB 10.20 should be installed first before applying UCMDB 10.22. For detailed installation instructions, see the *HP Universal CMDB Deployment Guide* for version 10.20 and the *Release Notes* for version 10.22.
- All operating systems supported for Universal CMDB are also supported for HP Universal CMDB Configuration Manager.
- Unsupported configurations are listed to ensure that there is no ambiguity on the scope of the Support Matrix.
- To start the HP Universal CMDB Configuration Manager installer on Windows 2012, you must use

HP Universal CMDB (10.22) Page 7 of 37

one of the following methods:

- ∘ Open a command prompt window and run the command HP_CM.10.20.exe -i GUI.
- Right-click the installer and select **Properties**. Open the Compatibility tab and select **Run** this program in compatibility mode for Windows 7.
- Windows Server 2003 is no longer supported as of UCMDB 10.01.
- Installation of HP Universal CMDB is not supported on 32-bit machines.

Databases

One of the following supported databases is required to run Universal CMDB 10.22:

- Oracle Server
- . Microsoft SQL Server
- PostgreSQL Server

The table below describes hardware requirements for database server:

Deployment	СРИ	Memory	Linux Swap	Windows Virtual Memory	Free Disk Space
Enterprise	24 Cores	64 GB	64 GB	96 GB	300 GB

Note:

- It is strongly recommended to host database server on a physical machine, and it should be an
 independent server without other applications running on it.
- The hardware requirements could be the same as those for UCMDB server, but the DB SPACE depends on the data scale. For example, for a data scale of 30 millions CIs, HP recommends 500 GB or more space for data files and 200 GB or more space for log files.

Oracle System Requirements

The following table lists the Oracle Servers supported for working with HP Universal CMDB. A supported option means that HP quality assurance personnel have successfully performed basic tests on that

HP Universal CMDB (10.22) Page 8 of 37

option.

Database Version	Edition	System Type	Supported Products
Oracle 12c	 Standard 	64-bit	• UCMDB
(With or without the Oracle Advanced Security	• Enterprise		UCMDB Integration Service
Option enabled)			Note: Oracle 12c must be installed without container database (CDB). UCMDB does not support Oracle 12c with CDB.
	RAC Enterprise		• UCMDB
Oracle 11.2 (11g R2)	• Standard	64-bit	• UCMDB
(With or without the Oracle Advanced Security	• Enterprise		Configuration Manager
Option enabled)			UCMDB Integration Service
	RAC Enterprise	64-bit	• UCMDB
			Configuration Manager

Note:

- It is strongly recommended to apply the latest critical Oracle patches per your operating system. For details, consult the Oracle documentation.
- Consult the Oracle documentation for supported platforms.
- The UCMDB server(s) should be located in the same LAN with the database servers (without a proxy and firewalls between them). Otherwise, your system's performance may be impacted.
- For information about how to configure UCMDB to support the Oracle Advanced Security Option (ASO), see the *HP Universal CMDB and Configuration Manager Hardening Guide*.

Examples of Tested Deployments

The following table details the deployment environments that have been rigorously tested by HP quality assurance personnel.

HP Universal CMDB (10.22) Page 9 of 37

Database Rele	ase		
Version	Edition	System Type	Operating System
Oracle 11.2.0.1.0	Enterprise	64-bit	Windows Server 2012 Datacenter Edition (64-bit)
Oracle 11.2.0.1.0	Enterprise	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Oracle 11.2.0.1.0	Enterprise	64-bit	Red Hat Enterprise Linux Server 6.4
Oracle 11.2 RAC	Enterprise	64-bit	Oracle Enterprise Linux with Unbreakable Enterprise Kernel v6.3

Microsoft SQL System Requirements

The following table lists the Microsoft SQL Servers supported for working with HP Universal CMDB. A supported option means that HP quality assurance personnel have successfully performed basic tests on that option.

Database Version	Edition	System Type	Service Packs	Supported Products
Microsoft SQL Server 2014	• Standard	64-bit		• UCMDB
30.70. 23	 Enterprise 			UCMDB Integration Service
Microsoft SQL Server 2012	 Standard 	64-bit	SP1, SP2	• UCMDB
Server 2012	• Enterprise			Configuration Manager
				UCMDB Integration Service
Microsoft SQL Server 2008	 Standard 	32-bit or 64-bit	SP3	• UCMDB
3erver 2008	• Enterprise	04-010		Configuration Manager
Microsoft SQL Server 2008	 Standard 	64-bit	R2 SP1, R2 SP2	• UCMDB
Server 2006	• Enterprise		372	Configuration Manager
Microsoft SQL Server 2012	• Enterprise	64-bit	SP1	• UCMDB
Failover Cluster				Configuration Manager
				UCMDB Integration Service

HP Universal CMDB (10.22) Page 10 of 37

Database Version	Edition	System Type	Service Packs	Supported Products
Microsoft SQL Server 2008 Failover Cluster	• Enterprise	64-bit	SP3R2 SP1R2 SP2	UCMDBConfiguration Manager

Note:

- Only supported service packs should be installed, with latest patches.
- Consult the Microsoft documentation for supported platforms.
- SQL Server 2008 is no longer supported.
- The UCMDB server(s) should be located in the same LAN with the database servers (without a proxy and firewalls between them). Otherwise, your system's performance may be impacted.

Examples of Tested Deployments

The following table details the deployment environments that have been rigorously tested by HP quality assurance personnel.

Database Release	atabase Release			
Version	Edition	System Type	Service Packs	Operating System
Microsoft SQL Server 2012	Enterprise	64-bit	SP1	Windows Server 2012 Standard Edition (64-bit)
Microsoft SQL Server 2012	Enterprise	64-bit	SP1	Windows Server 2012 Datacenter Edition (64-bit)
Microsoft SQL Server 2012	Enterprise	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2012	Standard	64-bit	SP1	Oracle Enterprise Linux Server 6.3
Microsoft SQL Server 2012	Standard	64-bit	SP1	Windows Server 2012 Datacenter Edition (64-bit)
Microsoft SQL Server 2012	Standard	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)

HP Universal CMDB (10.22) Page 11 of 37

Database Release				
Version	Edition	System Type	Service Packs	Operating System
Microsoft SQL Server 2012 Cluster	Enterprise	64-bit	SP1	Windows Server 2008 R2 Enterprise Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2012 Cluster	Enterprise	64-bit	SP1	Windows Server 2008 R2 Standard Edition Service Pack 1 (64-bit)
Microsoft SQL Server 2014	Enterprise	64-bit	SP2	Windows Server 2008 Enterprise Edition Service Pack 2 (64-bit)

PostgreSQL System Requirements

The following table lists the PostgreSQL Servers supported for working with HP Universal CMDB. A supported option means that HP quality assurance personnel have successfully performed basic tests on that option.

Database Version	Edition	System Type	Supported Products
PostgreSQL 9.4	Enterprise	64-bit	UCMDBUCMDB Integration Service
PostgreSQL 9.3	Enterprise	64-bit	 UCMDB UCMDB Integration Service
PostgreSQL Server 9.22	Enterprise	64-bit	• UCMDB

Note:

- Only supported service packs should be installed, with latest patches
- The UCMDB server(s) should be located in the same LAN with the database servers (without a proxy and firewalls between them). Otherwise, your system's performance may be impacted.
- Embedded PostgreSQL is not supported on Enterprise deployments of UCMDB.
- Embedded PostgreSQL is not supported on Linux systems.

Examples of Tested Deployments

HP Universal CMDB (10.22) Page 12 of 37

The following table details the deployment environments that have been rigorously tested by HP quality assurance personnel.

Database Release Version	Deployment	System Type	Operating System
PostgreSQL Server 9.4	Enterprise	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1
PostgreSQL Server 9.22	External	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1
PostgreSQL Server 9.22	Embedded	64-bit	Windows Server 2008 R2 Enterprise Edition Service Pack 1
PostgreSQL Server 9.22	Standalone	64-bit	Red Hat Enterprise Linux Server 6.2
PostgreSQL Server 9.22	Standalone	64-bit	Red Hat Enterprise Linux Server 6.3

Application Servers

Universal CMDB 10.22 does not use an application server.

The following supported application server is required to run HP Universal CMDB Configuration Manager:

• Apache Tomcat, version 7.0.64

Note: The required application server is included in the HP Universal CMDB Configuration Manager installation.

Web Servers

The following supported web server is required to run Universal CMDB and Universal Discovery 10.22:

Jetty, version 9.2.10

Note: The required web server is included in the HP Universal CMDB installation.

HP Universal CMDB (10.22) Page 13 of 37

Web Browsers and Plug-ins

One of the following supported web browsers is required to run Universal CMDB 10.22:

Browser	OS Version and Edition	Supported	Recommended
Windows Internet Explorer 9	Consult the Microsoft documentation for supported platforms.	Yes	Yes When using Internet Explorer, it is recommended to use version 9.0 to achieve optimal viewing and application performance
Windows Internet Explorer 10	Consult the Microsoft documentation for supported platforms.	Yes	
Windows Internet Explorer 11	Consult the Microsoft documentation for supported platforms.	Yes	
Google Chrome	Microsoft Windows	Yes (for UCMDB Browser only)	Note: UCMDB UI applet cannot work in Chrome version 42 or later, because starting from Chrome 42, NPAPI plugins are disabled by default. For more details and a workaround, see KM01656540.
Firefox ESR 17 and later	Microsoft Windows	Yes	Firefox 31 ESR
	WIIIUUWS		Note: There is a known issue with Mozzilla Firefox ESR 38.4 (JavaScript garbage collection crash with Java applet). The plug-in

HP Universal CMDB (10.22) Page 14 of 37

Browser	OS Version and Edition	Supported	Recommended
			container for Firefox stops working and sometimes, when clicking Logout , nothing happens. In this case, use a different supported Firefox version.
Firefox 10 and higher	Red Hat Enterprise Linux versions 5 and 6, 32/64-bit	No	
Safari	 Mac OS X (for UCMDB UI and UCMDB Browser only) iPad with iOS 6 or later (for UCMDB Browser only) 	Yes	
Internet Explorer 6, 7, 8	Windows	No	
Firefox 3.5, 4, 5, 6, 7, 8, 9	Any	No	

The following supported plug-ins are required to run Universal CMDB 10.22:

Screen resolution	Minimal resolution: 1024x768. It is recommended that you use 1280x1024. For wide screens (for example, for 15.4" laptops) the best resolution is 1600x1050.
Java Runtime Environment (for applet viewing)	8 family Note: The recommended JRE version is 8u45, which is also included on the UCMDB Server itself for local network download.
	To change the locally available JRE:
	 Place a new JRE deployment executable file in: C:\hp\UCMDB\UCMDBServer\deploy\ucmdb-ui\static\JRE
	2. Restart the server.
	If you are using Microsoft Internet Explorer, you can download the Oracle JRE from the Java website (http://www.java.com/download/).

HP Universal CMDB (10.22) Page 15 of 37

	 After installation, verify that the browser is using the correct Java version. To do this, open the Java Control Panel (Control Panel > Java) and then verify the following settings: In the Security tab, the Enable Java content in the browser option is selected. In the Java tab, click View. In both the User and System tabs of the Java Runtime Environment Settings dialog box, verify that the check box in the Enabled column for the correct product is selected. Note: A 32-bit version of JRE must be installed to run UCMDB on a 32-bit web browser.
Java caching	 To enable Java caching on the client machine, follow these steps: Open the Java Control Panel (Control Panel > Java). In the General tab, click the Settings button in the Temporary Internet Files section, and then select the Keep temporary files on my computer option.
Applet tag support	UCMDB applets support applet tag deployment only. To verify that the client machine supports applet tags, open the Java Control Panel. Click the Advanced tab and expand Default Java for browsers . Verify that Microsoft Internet Explorer is selected.
Adobe Flash Player (to view charts in reports)	Versions 10.x and later, up to v15
Microsoft Excel (to view exported data)	Versions 2010 and 2013
Adobe Reader (to view exported data)	Versions X and XI

HP Universal CMDB (10.22) Page 16 of 37

Additional Requirements

Data Flow Probe Requirements

Hardware Requirements

Computer/proce ssor	Recommended: The latest generation of Intel/AMD processors (Intel Xeon CPUs or compatible) and the fastest possible processor speed							
	CPU Cores:	CPU Cores:						
	Deployment	Mi	inimum		Recon	nmended		
	Small	4 (Core		8 Core	S		
	Standard	4 (Cores		8 Core	S		
	Enterprise	8 (Cores		24 Cor	es		
Memory	Don Louis and		W	indows		Linux		
	Deployment		Minimum	Recommended		Minimum	Recommended	
	Small		4 GB	8 GB		4 GB	8 GB	
	Standard		8 GB	16 GB		4 GB	8 GB	
	Enterprise		12 GB	24 GB		8 GB	16 GB	
Memory swap file	Windows: The virtual memory for Windows should be at least 1.5 times the size of the physical memory. Linux: The Linux swap file size should be equal in size to the physical memory.							
Free hard disk space	Small/Standard: 100 GB (Note: 75 out of 100 GB disk space is required for scan files storage) Enterprise: 300 GB (Note: 225 out of 300 GB disk space is required for scan files storage)							
						for scan files		
Display	Windows/Linux: Color palette setting of at least 256 colors (32,000 colors recommended)							

For more information about data flow probe sizing considerations, see the *HP Universal CMDB Sizing Guide*.

HP Universal CMDB (10.22) Page 17 of 37

Software Requirements

Hardware Platform	OS Type	OS Version and Edition	Supported	Recommended
x86-64	Windows Server 2012 R2	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows Server 2012	Standard/Datacenter editions, 64-bit	Yes	
x86-64	Windows Server 2008	SP2, Standard/Enterprise editions, 64-bit	Yes	
x86-64	Windows Server 2008	R2 and R2 SP1, Standard/Enterprise editions, 64-bit	Yes	Yes
x86-64	Red Hat Linux Server 5.10 and 5.11	Enterprise/Advanced, 64 bit	Yes	
x86-64	Red Hat Enterprise Linux Server 6.2, 6.3, 6.4, 6.5, and 6.6	64-bit	Yes	
x86-64	Oracle Enterprise Linux with Red Hat Compatible Kernel v6.3, v6.4, v6.5, and v6.6	Enterprise/Advanced 64-bit	Yes	
x86-64	Oracle Enterprise Linux with Oracle Unbreakable Enterprise Kernel v6.3, v6.4, v6.5, and v6.6	Enterprise/Advanced 64-bit	Yes	
	Windows Server 2008	SP2, Standard/Enterprise editions, 32-bit	No	
	Windows Server 2003	SP2 and R2 SP2, Standard/Enterprise editions, 32-bit or 64-bit	No	
	Windows 7	Professional/Enterprise	No	
	Windows 2000		No	

Note:			

HP Universal CMDB (10.22) Page 18 of 37

- Windows Server 2003 is no longer supported as of UCMDB 10.00.
- As of UCMDB 10.00, the Data Flow Probe only supports 64-bit platforms.
- For Linux platforms, only integrations are supported, not discovery. For details, see the *How to* Run Module/Job-based Discovery section in the HP Universal CMDB Data Flow Management Guide.

Supported Databases

Database	Version and Edition	Recommended	Comments
PostgreSQL	• 9.2.2, Enterprise		This database comes bundled with the Probe installation

Virtual Environment Requirements

Platform	OS Version and Edition	Supported	Recommended
VMware ESXi 6.0	Windows Server 2012 Standard/DataCenter R2, 64-bit	Yes	Yes
VMware ESXi 5.5	Windows Server 2012 Standard/DataCenter R2, 64-bit	Yes	Yes
VMware ESXi 5.0, 5.0 update 1, 5.1	 Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	Yes
VMware ESX 4.0, 4.1	 Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64- 	Yes	

HP Universal CMDB (10.22) Page 19 of 37

Platform	OS Version and Edition	Supported	Recommended
	bit		
Microsoft Hyper-V Server 2012, 2012 R2	 Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	
Microsoft Hyper-V Server 2008 R2 SP1	 Windows Server 2008 Standard/Enterprise SP2, R2, and R2 SP1, 64-bit Red Hat Linux Server 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	
Oracle VM 3.2	See Oracle VM 3.2 Release Notes	Yes	Yes
VMware ESX 3.5 or earlier	All platforms	No	
VMware ESXi 4.1 and earlier	All platforms	No	
Xen Hypervisor 3.x	All platforms	No	

Passive Discovery Integration

HP Real User Monitor (HP RUM) version 9.20 or later must be installed on a separate server, and must be running and configured to integrate with a Data Flow Probe to run passive Just-In-Time discovery.

The HP RUM Installation can be downloaded from the HP Software Support Online Portal (https://softwaresupport.hp.com/). Search for **Real User Monitor** under **Application Performance Management (BAC)**.

HP Universal CMDB (10.22) Page 20 of 37

Universal Discovery Client Inventory Tools Software Requirements

The following table displays the software requirements for the Universal Discovery Client Inventory tools:

- SAI editor
- Viewer
- · Analysis Workbench

Hardware Platform	OS Type	OS Version and Edition	Supported
x86 or x86-64	Windows XP	any	Yes
x86 or x86-64	Windows Server 2003	any	Yes
x86 or x86-64	Windows Server 2003 R2	any	Yes
x86 or x86-64	Windows Server 2008	any	Yes
x86-64	Windows Server 2008 R2	any	Yes
x86 or x86-64	Windows Server 2012	any	Yes
x86 or x86-64	Windows Vista	any	Yes
x86 or x86-64	Windows 7	any	Yes
x86 or x86-64	Windows 8	any	Yes
x86 or x86-64	Windows 10	any	Yes

Note:

- It is not recommended to install the Inventory tools on the same computer that is running the Data Flow Probe due to potential file locking issues.
- When installing the Inventory Tools on a separate machine, the hardware requirements are a dual core CPU with a minimum speed of 1.5 Ghz and 4 GB of RAM

HP Universal CMDB (10.22) Page 21 of 37

Store and Forward Server Support

The Store and Forward server is supported on the following operating systems and platforms:

Windows

Operating System	Version	Platform
Server	2008	x64
Server	2008 R2	
Server	2012	

Linux

Operating System	Version	Platform
Red Hat Enterprise Linux Server/Desktop	5	x86-64
Red Hat Enterprise Linux Server/Workstation	6	
Oracle Linux	4,5,6	

HP Universal CMDB (10.22) Page 22 of 37

Compatibility

This section provides information about software and configurations that are not required, but which are compatible with Universal CMDB 10.22.

Languages

Universal CMDB 10.22 runs on systems with any of the following languages:

•	German			

- French
- Spanish
- Brazilian Portuguese
- Italian
- Dutch
- Russian
- Japanese
- Korean
- Simplified Chinese

Universal CMDB 10.22 is localized in the following languages

- German
- French
- Spanish
- Brazilian Portuguese
- Italian

HP Universal CMDB (10.22) Page 23 of 37

- Dutch
- Russian
- Japanese
- Korean
- Simplified Chinese

Internationalization Variances

Universal CMDB 10.22 runs on all locales described in this document. There are no known variances.

Virtualization Products

Universal CMDB and Universal Discovery 10.22 can be used with the following virtualization products:

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
VMware ESXi 6.0	 Windows 2012 Standard/ DataCenter R2, 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	SmallStandardEnterprise	Yes
VMware ESXi 5.5	 Windows 2012 Standard/ DataCenter R2, 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	SmallStandardEnterprise	Yes
VMware ESXi 5.1	Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit	Yes	SmallStandard	Yes

HP Universal CMDB (10.22) Page 24 of 37

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
	 Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 		• Enterprise	
VMware ESXi 5.0, 5.0 update 1	 Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	SmallStandardEnterprise	
VMware ESX 4.0, 4.1	 Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	• Small • Standard	
Microsoft Hyper-V Server 2012 R2	 Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit 	Yes	SmallStandardEnterprise	

HP Universal CMDB (10.22) Page 25 of 37

Virtual Environment	OS Version and Edition	Supported	UCMDB Deployments	Recommended
	• Red Hat Enterprise Linux Server 6.x, 64-bit			
Microsoft Hyper-V Server 2012	 Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	SmallStandardEnterprise	
Microsoft Hyper-V Server 2008 R2 SP1	 Windows 2008 Enterprise SP2, R2, and R2 SP1 64-bit Windows 2008 Standard R2 and R2 SP1 64-bit Red Hat Linux 5.x Enterprise/Advanced, 64-bit Red Hat Enterprise Linux Server 6.x, 64-bit 	Yes	SmallStandardEnterprise	
Oracle VM 3.2	See Oracle VM 3.2 Release Notes	Yes		
Xen Hypervisor 3.x	Any	No		
VMware ESX version 3.5 or earlier	Any	No		
VMware ESXi 4.x or earlier	Any	No		

The following product has been tested to perform live migration of VMware ESXi virtual machines:

• VMware vSphere 5.5 vMotion

HP Universal CMDB (10.22) Page 26 of 37

Recommendations for Deploying HP CMS System on the Virtual Machines

If virtual servers are being used for a production CMS system:

- It is strongly recommended that you use physical hardware for UCMDB Database in production environments where performance is a concern. Deploying the UCMDB database on a virtual environment might run into performance issue.
- 2. Assign dedicated resources (such as vCPU, memory, and disk I/O) to a guest operating system that acts as a UCMDB and Probe Server.
- 3. Deploy all UCMDB Server HA deployment in the same virtualization resource pool.
- 4. Use the high performance storage (such like HP 3PAR) for UCMDB server (If the I/O is not good enough, with some user scenarios, such as SOLR full indexing, it might cause CPU high usage).

Hardware recommendations:

- It is recommended to use the same number of vCPU and memory as recommended for physical deployment.
- 2. A Gigabit network card should be used.

High-Availability Products

Universal CMDB 10.22 is compatible with the following high-availability products:

• The **F5 BIG-IP version 10.x** load balancer. (F5 BIG-IP version 11.x is also supported.)

For details on configuring the load balancer, refer to the High Availability section in the interactive *HP Universal CMDB Deployment Guide*.

If you are using a different load balancer, the configuration should be performed by a network administrator who has a wide knowledge about how to configure your load balancer, and similar principles should be applied.

Note: The load balancer used for High Availability must have the ability to insert cookies and must be able to do health checks ("keepalive").

HP Universal CMDB (10.22) Page 27 of 37

HP Software Integrations

Information about HP software that integrates with Universal CMDB 10.22 can be found at the HP Software Support site. See HP Software Integrations Catalog.

HP Software Coexistence

No coexistence information for Universal CMDB 10.22 is available.

Other Software Coexistence

No coexistence information for Universal CMDB 10.22 is available.

Server / Client Compatibility

No compatibility information for older versions of Universal CMDB 10.22 clients or servers is available.

Performance and Sizing

When planning capacity, among other issues, you should consider the ratio of managed nodes in your CMDB to node-related CIs. Node-related CIs include all CIs of types that are subclasses of Application Resource, Node Element, or Running Software.

The following table lists the number of node-related CIs you can discover for each managed node in your environment. This number depends on the size of your deployment and the number of managed nodes—the more managed nodes you maintain in the CMDB, the fewer node-related CIs you can discover for each managed node.

For example, in an Enterprise deployment, if you are running 134,400 managed nodes, you can discover 160 node-related CIs for each managed node. If you are running only 43,200 managed nodes, you can discover 500 resource CIs for each managed node.

Deployment	Number of Managed Nodes/Node-Related CIs	
Enterprise	134400/160 – 43200/500	
Standard	9000/160 – 3000/500	

HP Universal CMDB (10.22) Page 28 of 37

Deployment	Number of Managed Nodes/Node-Related CIs	
Small	4500/160 – 1000/500	

Note: The numbers in the table include only CIs and not relationships.

For more details about performance and sizing, see the *HP Universal CMDB Sizing Guide*.

HP Universal CMDB (10.22) Page 29 of 37

Transparent Technology and Virtualization Support

In recent years, a number of "transparent" hardware and software technologies and virtualization solutions (such as Citrix, Microsoft Cluster Software, and VMware) have become increasingly prevalent. These solutions operate in the technology layers adjacent to the operating systems or, in some cases, as extensions of the operating systems. Similarly, database solutions offer transparent components as supported elements.

HP supports Universal CMDB running on operating systems and databases on particular platforms as described in the matrix above, not specific hardware and software configurations. HP will support Universal CMDB customers who run HP software products on supported operating systems and databases, irrespective of whether they are running transparent or virtualization solutions in their environment. HP does not support these transparent or virtualization technologies directly. Since the providers of these technologies support a set of certified operating systems and hardware, the customer and the providers of these technologies will be responsible for any interactions or issues that arise at the hardware or operating system layer as a result of their use.

HP will not require customers to re-create and troubleshoot every issue in a non-transparent environment; however, HP does reserve the right to request that its customers diagnose certain issues in a native certified operating system environment without the transparent technology. HP will only make this request when there is reason to believe that the environment is a contributing factor to the reported issue.

While Universal CMDB is expected to function properly with these transparent technologies in place, there may be performance implications, which can invalidate HP's typical sizing and recommendations. Analysis must be performed within the context of the specific application to be hosted in a virtual environment to minimize potential resource overload, which can have significant impact on performance and scalability, particularly under peak load.

HP Universal CMDB (10.22) Page 30 of 37

Obsolescence Plans

As of August 2016 (2nd Edition), there are no plans to end support for any currently supported version of Universal CMDB.

To learn the obsolescence plans for previously released versions of Universal CMDB, go to:

https://softwaresupport.hp.com/web/softwaresupport/obsolescence-migrations

HP Universal CMDB (10.22) Page 31 of 37

Change Log

The table below lists the changes to this document since the release of UCMDB version 10.01.

Document Date (product version)	Change			
Dec 2015 (10.22)	Databases:			
	Added support for PostgreSQL 9.4			
	Added support for Microsoft SQL Server 2012 SP2			
	Operating Systems:			
	 Added support for Red Hat Enterprise Linux Server versions 6.6, 7.0, and 7.1 on UCMDB server side, and version 6.6 on probe side 			
	 Added support for Oracle Enterprise Linux with Red Hat Compatible Kernel versions 6.6, 7.0, and 7.1 on UCMDB server side, and v6.6 on probe side 			
	 Added support for Oracle Enterprise Linux with Oracle Compatible Kernel versions 6.6, 7.0, and 7.1 on UCMDB server side, and v6.6 on probe side 			
	Virtualization:			
	Added support for VMware ESXi 6.0			
	Web Browsers:			
	Added support for Windows Internet Explorer 11 (for Configuration Manager)			
	Universal Discovery Client Inventory Tools:			
	Added support for Windows 10			
	Application Server:			
	Updated Apache Tomcat version to 7.0.64			
	Removed Support for the following:			
	Safari on Windows platform			
Mar 2015 (10.21)	 Plug-ins: Added support for JRE 8 family. The recommended JRE version is changed from 7u65 to 8u45. 			
	Databases:			
	Added support for PostgreSQL 9.3			

HP Universal CMDB (10.22) Page 32 of 37

Document Date (product version)	Change		
	Web Browsers:		
	Added support for Safari on iPad with iOS 6 or 7 (for UCMDB Browser only)		
	De-supported:		
	Java Runtime Environment 1.6 family		
Jan 2015 (10.20)	 Operating Systems: Added support for Oracle Enterprise Linux with Red Hat Compatible Kernel v6.4, v6.5 		
	 Added support for Oracle Enterprise Linux with Oracle Unbreakable Kernel v6.4, v6.5 		
	Virtualization:		
	Added support for Microsoft Hyper-V Server 2012 R2		
	Added support for Oracle VM 3.2		
	Databases:		
	Added support for Oracle 12c, Standard/Enterprise Editions		
	Added support for Oracle 12c RAC, Enterprise Edition		
	Added support for Microsoft SQL Server 2014, Standard/Enterprise Editions		
	Web Browsers:		
	 Added support for Safari on Windows for UCMDB UI, CM UI, and UCMDB Browser; on Mac OS X for UCMDB UI and UCMDB Browser 		
	Added support for Firefox 31 ESR		
	Plug-ins:		
	Added support for Adobe Flash Player versions up to v15		
	Added support for Adobe Reader X and XI		
Jun 2014 (10.11)	 Operating Systems: Added support for Windows Server 2012 R2, Datacenter and Standard Editions, for UCMDB and the Data Flow Probe 		
	Added support for Red Hat Enterprise Linux Server 6.5, for UCMDB and the Data Flow Probe		
	Virtualization:		

HP Universal CMDB (10.22) Page 33 of 37

Document Date (product version)	Change
	Added support for VMware ESXi 5.5
	 Added support for VMware vSphere 5.5 vMotion to perform live migration of VMware ESXi virtual machines
	Web Browsers:
	Added support for Windows Internet Explorer 11, for UCMDB UI
	Added support for Firefox ESR 24, for UCMDB UI
November 2012	Hardware:
(10.01)	 For Enterprise deployments of UCMDB with more than 40 million CIs and relationships, the required memory is 32 GB RAM
	Operating Systems:
	Added support for Windows 2012, Datacenter and Standard Editions, for UCMDB and the Data Flow Probe
	 Added support for Red Hat Enterprise Linux Server 6.4, for UCMDB and the Data Flow Probe
	Databases:
	Discontinued support for Oracle Database 10.2.0.4
	 Added support for Microsoft SQL Server Database 2012 SP1, Standard/Enterprise Editions, 64-bit
	 Added support for Microsoft SQL Server Database 2012 Failover Cluster SP1, Enterprise Edition, 64-bit
	 Added support for PostgreSQL Server Database 9.2.2, Enterprise Edition, 64- bit in the following modes:
	 Embedded mode (for Small and Standard UCMDB deployments only)
	 External mode (for Small, Standard and Enterprise UCMDB deployments)
	Web Browsers:
	Added support for Windows Internet Explorer 10
	 Discontinued support for Firefox 10 and higher using Red Hat Enterprise Linux, versions 5 and 6, 32/64-bit
	Plug-ins:

HP Universal CMDB (10.22) Page 34 of 37

Document Date (product version)	Change			
	The recommended JRE version was changed from 1.7u05 to 1.7u25			
	 Added support for Adobe Flash Player 11.5 Added support for Microsoft Excel 2013 			
	Data Flow Probe:			
	 Introduced a Small deployment for the Data Flow Probe (in addition to the Standard and Enterprise deployments) The Memory requirements for the Data Flow Probe deployment using Windows changed as follows: 			
	UCMDB 10.01	Standard: 4 GB RAM		
		Enterprise: 8 GB RAM		
	UCMDB 10.10	Small: 4 GB RAM		
		Standard: 8 GB RAM		
		Enterprise: 12 GB RAM		
	 The Memory Swap File requirements for the Data Flow Probe deployment using Windows changed as follows: 			
	UCMDB 10.01	Standard: 6 GB RAM		
		Enterprise: 12 GB RAM		
	UCMDB 10.10	Small: 6 GB RAM		
		Standard: 12 GB RAM		
		Enterprise: 18 GB RAM		
	The free hard disk space requirements for Enterprise deployments of the Data Flow Probe changed as follows:			
	UCMDB 10.01	200 GB		
		Note: 150 out of 200 GB disk space is required for scan files		

HP Universal CMDB (10.22) Page 35 of 37

Document Date (product version)	Change		
	UCMDB 10.10	300 GB Note: 225 out of 300 GB disk space is required for scan files	
	 Discontinued support for MySQL and MySQL Driver for the Data Flow Probe Added support for PostgreSQL Server Database 9.2.2 for the Data Flow Probe Virtualization: Added support for VMware ESXi 5.1 		
	 Added support for Microsoft Hyper-V Server 2012 Added support for Microsoft Hyper-V Server 2008 R2 SP1 for Enterprise deployments of UCMDB 		

HP Universal CMDB (10.22) Page 36 of 37

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Feedback on Support Matrix (Universal CMDB 10.22)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to cms-doc@hpe.com.

We appreciate your feedback!

HP Universal CMDB (10.22) Page 37 of 37